years. This consists of chordee release and transposition of the prepuce flaps to the penile ventrum. This allows the penis to develop properly before urethroplasty at age four and a half to six.

In every instance the complete repair can be accomplished using only local tissues. The use of skin flaps, scrotal flaps, free skin grafts from extragenital areas is unnecessary. When skin has been lost following previous operation, there may be a need to bring the skin from other areas. Only the penile skin, transposed from the prepuce, will provide fully expansile, smooth and adnexal free lining for urethroplasty.

It is mandatory that this be utilized efficiently and carefully to replace the absent urethra. Stenotic or patulous urethra, urethral hairs and pockets will result from improperly selected type and technique of repair.

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Use of the Water Bed

IN SPITE OF WIDESPREAD attention to proper nursing and local wound care, pressure sores continue to present a problem to many physicians in diverse fields. Once a pressure sore is established, its cure will often require many months in hospital at great monetary and psychological expense.

Clinical data is accumulating that the use of the "water bed" can prevent the formation of pressure sores and hasten the healing of established ulcers. Pressure sores result from tissue ischemia, usually the result of prolonged pressure on tissues overlying bony prominences or lateral shearing and stretching of blood vessels to the tissue.

The water bed solves the problem by equal distribution of the patient's weight over the greatest possible surface. The patient floats in a controlled volume of water, and all body points contact the water at less than capillary pressure. Thus, capillary circulation continues unabated, nourishing even tissue that overlies bony prominences.

The water bed represents an important advance in the care of patients with paraplegia, stroke, spinal cord injury and geriatric problems. In addition, it can be utilized to simplify nursing care and minimize patient discomfort, as patients can be placed directly on their pedicle flaps or skin grafts without damage of slough from excessive pressure.

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The Doppler Flow Meter

THE DOPPLER FLOW METER IS A relatively new and simple instrument that has found many applications both in clinical medicine and in research. The basic function of the instrument is to emit ultrasound and to detect reflected ultrasound. Reflected sound from stationary objects (for example, bone) is unchanged in frequency, whereas sound reflected from a moving object (such as blood cells) will change in frequency by an amount related to the velocity of the particles (the Doppler effect).

The flow meter has a "probe" consisting of a piezoelectric crystal which generates the ultrasound beam. A second crystal, slightly separated from the first one, detects the reflected ultrasound. The probe is applied to the skin in close contact using "electrode" jelly. The ultrasound is translated into audible sound, and the pulsations in the vessel are heard. Since the change in frequency is related to velocity, this can also be translated into vessel caliber.

Clinical uses for the Doppler Flow Meter include:

- Pulse monitoring during surgery;
- Evaluation of arterial obstruction secondary to atherosclerosis, spasm or injury;

- Identification of perforating vessels in varicosities;
- Assessment of blood flow in tissue damage –for example, frost bite;
- Assessment of blood flow to pedicle flaps as an indicator of viability and as an aid to timing of delay and separations.

The use of this simple device obviates the need for injection of dye indicators, isotopes and other relatively complicated or potentially harmful materials that have been described for the same purposes.

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